

REMARKS

Claims 18-35 are pending. Claims 18-34 are rejected under 35 USC 112. Claims 26-30 are rejected under 35 USC 102(b) as being anticipated by US patent application publication 2003/0037272 (Flaschka et al.). Claims 18, 20-25, 31, 32, and 35 are rejected under 35 USC 103(a) as being unpatentable over Flaschka in view of US patent 5,218,600 (Schenkyr et al.). Claim 19 is rejected under 35 USC 103(a) as being unpatentable over Flaschka in view of Schenkyr and in view of US patent 6,260,004 (Hays et al.). Claims 33 and 34 are rejected under 35 USC 103(a) as being unpatentable over Flaschka in view of Schenkyr and in view of US patent 6,965,560 (Ying et al.).

Claims 26 and 32 are canceled herein. Claims 18, 20-23, 27-31, 34, and 35 are amended. Claim 36 is new, and is supported throughout the specification, especially in paragraphs 27, 28, 30, 32, 40 and 41. No new matter is added by these amendments.

Response to rejections under 35 USC 112

The terms "configuration", "configured", and "configured to" are used throughout the specification to mean "arranged". A dictionary definition of "configuration" is: "Arrangement of parts or elements". This does not simply mean a set-up of parameters. The arrangement of parts or elements of the present invention is fully enabled to the level of individual resistors (FIGs 4, 7), including exemplary resistance and voltage values and ratios (for example par. 37). The state diagrams (FIGs 5, 6) fully specify and enable control logic based on voltage values and ratios. However, the term "configured to" has been removed from the claims as suggested by Examiner. Suggestions are always appreciated.

The phrase "the first respectively second cable" has been eliminated from the claims.

Claim 32 is canceled and combined with claim 31 in corrected form.

Response to rejections under 35 USC 102(b)

Flaschka does not qualify as prior art under 35 USC 102(b) because its publication date of Feb. 20, 2003 is less than 1 year before the earliest priority date of the present application, based on DE10356118.8 filed Nov. 27, 2003. The present application is filed under 35 USC 371, so its effective US filing date is the same as the international filing date, per MPEP1893.03(b) and 35 USC 363.

35 USC 363: An international application designating the United States shall have the effect, from its international filing date under Article 11 of the treaty, of a national application for patent regularly filed in the Patent and Trademark Office except as otherwise provided in section 102(e) of this title.

The priority patent DE10356118.8 has the same drawing elements as the present application in FIG 1 of both sets with respect to the network 11 (present) / 5 (priority); as well as a comparable FIG 4 (present) and FIG 2 (priority); FIG 5 (present) and FIG 3 (priority); FIG 6 (present) and FIG 4 (priority); and FIG 7 (present) and FIG 5 (priority). Nevertheless, 35 USC 102 arguments on the merits are provided below.

Response to rejections under 35 USC 102

For this discussion, the following elements of Flaschka appear to most closely correspond to the indicated elements of Applicants.

APPLICANTS	FLASHKA
11 network, preferably Profibus	1 bus
RM redundancy manager	8 coupling module
F1-F4 field devices	2-6 bus stations

Flaschka lacks an element corresponding Applicants' branching units T1-T4, which are central to the present invention. Flaschka's coupling module 8 does not correspond to Applicants' branching unit T1-T4. This is determined topographically by the fact that the first and second ends of Flaschka's bus 1 terminate at his coupling module 8, as with Applicant's redundancy manager RM, and not like Applicants' branching units T1-T4, which are located at intermediate positions on the network line 11. Therefore, Flaschka's element 8 corresponds to Applicants' redundancy manager RM, not to Applicants' branching unit T1-T4.

Flaschka's bus stations 2-6 also do not correspond to Applicants' branching unit T1-T4, because the network line 1 does not pass through them, and is not disconnectable by them. For this reason, Flaschka cannot disconnect a failed trunk segment from the line 1. No segments of bus 1 are even shown or mentioned in Flaschka. Furthermore Flaschka's bus stations 2-6 do

not have monitoring devices that could detect and isolate a segment failure as with Applicants' branching units T1-T4. There is only one monitoring device 11 in Flaschka -- in his coupling module 8. In contrast, not only does Applicants' redundancy manager RM have a monitoring device RMCB for monitoring each end of the network line 11, but, in addition, each of the branching units monitor a trunk segment H1-H5 of the line 11 via a control unit ST that implements a state transition table FIG 5. Nothing corresponding to this feature is found in Flaschka.

The above interpretation of Flaschka is confirmed via the functional teachings of paragraphs 8 and 9 for example. The monitoring device 11 sends a message over the bus to inform the bus stations of a bus interruption. The master bus station 4 may then send a command back to the switching device 10 to close the switch. Flaschka's bus stations 2-6 do not sense a fault on their own.

This is totally unlike Applicants invention, in which each branching unit T1-T4 independently monitors a respective intermediate segment, or trunk H1-H5, of the network line 11. Each branching unit can disconnect the respective trunk if it fails, and connect a termination resistance to stop echoes from reflecting back into the network from the disconnection point. This in addition to a complementary capability in the redundancy manager RM with respect to the whole network 11. When a fault occurs in a trunk H1-H5, both the redundancy manager and a branching unit respond. The redundancy manager responds by connecting the two ends of the network 11 together to provide communication and power to the network line 11 in both directions from the redundancy manager. In addition, the branching unit connected to the failed trunk disconnects the trunk and inserts a termination resistance, thus establishing a new end point of the network 11.

Since Flaschka lacks the above features of the invention as claimed in the independent claims, the 35 USC 102 rejections are not supported.

Response to rejections under 35 USC 103(a)

Schenkyr, Hays, and Ying do not supply the above missing features of Flaschka for the independent claims, so the 35 USC 103 rejections are not supported.

Conclusion

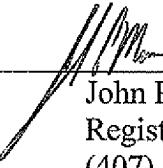
For anticipation under 35 USC 102, a reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present (MPEP 706.02(a) IV). The identical invention must be shown in as complete detail as recited in the claim, and the elements must be arranged as required by the claim (MPEP §2131). These criteria are not met for the independent claims by Flaschka, as argued above. Accordingly, Applicants request withdrawal of the 35 USC 102 rejections. For obviousness to occur under 35 USC 103, a combination must be suggested by the references or motivated by obvious or expected benefits in view of documented knowledge in the field at the time of the invention, not by hindsight guided by the invention. Further, the combination should not be contrary to the teachings of the references, it must work, and it must produce the invention. These criteria are not met as to the independent claims by the cited combinations because the additional references do not supply the missing features of Flaschka as to the independent claims, as argued above. The dependent claims should be allowable as including the limitations of an allowable base claim. Therefore Applicants feel this application is in condition for allowance, which is respectfully requested.

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including fees for additional claims and terminal disclaimer fee, or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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By: _____


John P. Musone
Registration No. 44,961
(407) 736-6449

Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, New Jersey 08830